

(56)

**References Cited****U.S. PATENT DOCUMENTS**

2009/0311669	A1	12/2009	Kawaoka
2010/0143406	A1	6/2010	Smith et al.
2010/0167376	A1	7/2010	Hogan et al.
2010/0239610	A1	9/2010	D'Aoust et al.
2010/0310604	A1	12/2010	D'Aoust et al.
2011/0191915	A1	8/2011	Couture et al.
2011/0293650	A1	12/2011	D'Aoust et al.
2012/0189658	A1	7/2012	Couture et al.

**FOREIGN PATENT DOCUMENTS**

CA	2 707 235	A1	6/2009
JP	5551780	B2	7/2014
NZ	598508	A	2/2014
WO	WO 86/03224	A1	6/1986
WO	WO 00/56906	A1	9/2000
WO	WO 02/074795	A2	9/2002
WO	WO 03/068163	A2	8/2003
WO	WO 03/068923	A2	8/2003
WO	WO 03/068993	A1	8/2003
WO	WO 2004/003207	A1	1/2004
WO	WO 2004/098530	A2	11/2004
WO	WO 2004/098533	A2	11/2004
WO	WO 2005/020889	A2	3/2005
WO	WO 2006/119516	A2	11/2006
WO	WO 2007/011904	A2	1/2007
WO	WO 2007/019094	A2	2/2007
WO	WO 2007/047831	A2	4/2007
WO	WO 2007/095318	A2	8/2007
WO	WO 2007/130327	A2	11/2007
WO	WO 2008/005777	A2	1/2008
WO	WO 2008/054540	A2	5/2008
WO	WO 2008/060669	A2	5/2008
WO	WO 2008/061243	A2	5/2008
WO	WO 2008/087391	A1	7/2008
WO	WO 2008/148104	A1	12/2008
WO	WO 2008/151440	A1	12/2008
WO	WO 2009/008573	A1	1/2009
WO	WO 2009/009876	A1	1/2009
WO	WO 2009/026397	A2	2/2009
WO	WO 2009/076778	A1	6/2009
WO	WO 2009/087391	A1	7/2009
WO	WO 2010/003225	A1	1/2010
WO	WO 2010/006452	A1	1/2010
WO	WO 2010/025285	A1	3/2010
WO	WO 2010/077712	A1	7/2010
WO	WO 2011/035423	A1	3/2011

**OTHER PUBLICATIONS**

- Spitsin et al (Vaccine, 27, pp. 1289-1292, 2009; cited on IDS dated Dec. 31, 2014).\*
- Li et al (Journal of Virology, 1992, 66(1): 399-404; cited on IDS dated Dec. 31, 2014).\*
- Sainsbury et al (Plant Biotechnology Journal, 2008, 6(1): 82-92; cited on IDS dated Aug. 7, 2012).\*
- Sagawa et al (Journal of General Virology, 1996, 77: 1483-1487).\*
- Air, G.M., "Sequence relationships among the hemagglutinin genes of 12 subtypes of influenza A virus," *Proc. Natl. Acad. Sci. USA* 78(12):7639-7643, National Academy of Sciences, United States (1981).
- Arntzen, C. and Dodet, B., "Plant-derived vaccines and antibodies: potential and limitations," *Vaccine* 23:1753-1756, Elsevier Ltd., England (2005).
- Bao, Y., et al., "The Influenza Virus Resource at the National Center for Biotechnology Information," *J. Virol.* 82(2):596-601, American Society for Microbiology, United States (2007).
- Berger, A., et al., "Plant sterols: factors affecting their efficacy and safety as functional food ingredients," *Lipids Health Dis.* 3:5, 19 pages, BioMed Central Ltd., England (2004).
- Berman, H., et al., "Announcing the worldwide Protein Data Bank," *Nat. Struct. Biol.* 10(12):980, Nature Publishing Group, England (2003).
- Borisjuk et al., "Expression of avian flu antigen for bird immunization," *Plant Biology & Botany 2007 Joint Commission*, 2 pages, Botanical Society of America, United States (2007) available at <<http://2007.botanyconference.org/engine/search/index.php?func=detail&aid=1410>>.
- Bouic, P.J.D. and Lamprecht, J.H., "Plant Sterols and Sterolins: A Review of Their Immune-Modulating Properties," *Alter. Med. Rev.* 4:170-177, Alternative Medicine Review, United States (1999).
- Bouic, P., "The role of phytosterols and phytosterolins in immune modulation: a review of the past 10 years," *Current Opinion in Clinical Nutrition & Metabolic Care*, 4(3):471-475, Thorne Research, Inc., England (2001).
- Bouic, P.J.D., "Sterols and sterolins: new drugs for the immune system?" *Drug Discovery Today*, 7:775-778, Lippincott Williams & Wilkins, United States (2002).
- Brigneti, G., et al., "Viral pathogenicity determinants are suppressors of transgenesilencing in *Nicotiana benthamiana*," *The EMBO Journal* 17(22):6739-6746, Oxford University Press England (1998).
- Chandler, G.L., "Influenza Hemagglutinin Expression in Nicotiana trtabacum and Nicotiana benthamiana," Masters in Science Thesis, Baylor University, Waco, Texas, 2007, 70 pages.
- Chandrasekaran, A., et al., "Glycan topology determines human adaptation of avian H5N1 virus hemagglutinin," *Nature Biotechnology*, 26(1):107-113, Nature Publishing Group, England (Jan. 2008).
- Charland, N., et al., "An Innovative VLP-based Technology to Respond to Global Influenza Vaccine Needs," Poster Abstracts, IDSA Seasonal and Pandemic Influenza Meeting, Arlington, Virginia, USA (May 2008).
- Chen, B.J., et al., "Influenza Virus Hemagglutinin and Neuraminidase, but Not the Matrix Protein, Are Required for Assembly and Budding of Plasmid-Derived Virus-Like Particles," *J. Virol.* 81(13):7111-7123, American Society for Microbiology, United States (2007).
- Chen, Z., et al., "Stabilizing the glycosylation pattern of influenza B hemagglutinin following adaptation to growth in eggs," *Vaccine* 26:361-371, Elsevier Ltd., England (Jan. 2008).
- Chiba, M., et al., "Diverse suppressors of RNA silencing enhance agroinfection by a viral replicon," *Virology* 34627-14, Elsevier Inc., United States (2005).
- Crawford, J., et al., "Baculovirus-derived hemagglutinin vaccines protect against lethal influenza infections by avian H5 and H7 subtypes," *Vaccine* 17:2265-2274, Elsevier Science Ltd., England (1999).
- Cross, K.J., et al., "Studies on influenza haemagglutinin fusion peptide mutants generated by reverse genetics," *EMBO J.* 20(16):4432-4442, European Molecular Biology Organization, England (2001).
- D'Aoust, M-A., et al., "Influenza Virus-like particles produced by transient expression in Nicotiana benthamiana induce a protective immune response against a lethal viral challenge in mice," *Plant Biotechnol. J.* 6:930-940, Blackwell Publishing Ltd., England (Dec. 2008).
- D'Aoust, M-A., et al., "The production of hemagglutinin-based virus-like particles in plants: a rapid, efficient and safe response to pandemic influenza," *Plant Biotechnol. J.* 8:1-13, Blackwell Publishing Ltd., England (Jun. 2010).
- Diaz-Vivancos, P., et al., "The apoplastic antioxidant system in *Prunus*: response to long-term plum pox virus infection," *J. Exp. Bot.* 57(14):38 13-3 824, Oxford University Press, England (2006).
- Fischer, R., et al., "Towards molecular farming in the future: transient protein expression in plants," *Biotechnol. Appl. Biochem.* 30:2113-2116, Portland Press Ltd., England (1999).
- Fischer, R., et al., "Affinity-purification of a TMV-specific recombinant full-size antibody from a transgenic tobacco suspension culture," *J. Immunol. Methods* 226:1-10, Elsevier Science B.V., Netherlands (1999).
- Flandorfer, A., et al., "Chimeric Influenza A Viruses with a Functional Influenza B Virus Neuraminidase or Hemagglutinin," *J. Virol.* 77(17):9116-9123, American Society for Microbiology, United States (2003).
- Frugis, G., et al., "MsJ1, an alfalfa DnaJ-like gene, is tissue-specific and transcriptionally regulated during cell cycle," *Plant Mol. Biol.* 40:397-408, Kluwer Academic Publishers, Netherlands (1999).